

Patent claims

1. A rotor for an electric motor comprising
an essentially cylindrical rotor core having a central aperture and comprising permanent magnets which are embedded in the rotor core and which extend essentially like spokes through the rotor core,
the rotor core being formed as an integral body and
the selected permanent magnets being bridged at their radially inner or outer ends by recesses in the rotor core.
2. A rotor according to claim 1, characterized in that each of the radially inner ends of two adjacent permanent magnets are bridged by a recess in the rotor core.
3. A rotor according to claim 2, characterized in that like poles of the permanent magnets are bridged at the radially inner ends of two adjacent permanent magnets by a recess in the rotor core.
4. A rotor according to claim 2, characterized in that the permanent magnets are arranged in pairs like double spokes in the rotor core, the permanent magnets of each pair being magnetized in the same direction, and that adjacent pairs are bridged at the radially inner ends of two adjacent permanent magnets by a recess in the rotor core.
5. A rotor according to claim 1, characterized in that the permanent magnets are enclosed by the rotor core at least at their radially inner ends or their radially outer ends.
6. A rotor according to claim 1, characterized in that the rotor core has bridges at the central aperture which enclose the recesses.
7. A rotor according to claim 6, characterized in that the bridges form a closed ring.
8. A rotor according to claim 6, characterized in that the bridges bridge the radially inner ends of two adjacent permanent magnets.
9. A rotor according to claim 1, characterized in that the recesses are filled with air or any other non-magnetic medium.

10. A rotor according to claim 1, characterized in that the rotor core is made from a ferromagnetic material.
11. A rotor according to claim 1, characterized in that the rotor core is made of stacked sheet metal laminations.
12. A rotor according to claim 1, characterized in that the rotor core has slots into which the permanent magnets are inserted.
13. A rotor for an electric motor comprising
an essentially cylindrical rotor core having a central aperture and comprising permanent magnets which are embedded in the rotor core and extend essentially like spokes through the rotor core,
the rotor core being formed as an integral body and
the rotor core being provided with recesses to influence the magnetic field.
14. A rotor according to claim 13, characterized in that the recesses adjoin selected permanent magnets.
15. An electric motor comprising a stator and a rotor having a rotor comprising
an essentially cylindrical rotor core having a central aperture and comprising permanent magnets which are embedded in the rotor core and which extend essentially like spokes through the rotor core,
the rotor core being formed as an integral body and
the selected permanent magnets being bridged at their radially inner or outer ends by recesses in the rotor core,
the rotor being fitted onto a shaft and the stator enclosing the rotor.